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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,535

07/17/2006

Hiroki Sasaki

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EXAMINER

REDDY, KARUNA P

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,535	Applicant(s) SASAKI ET AL.	
	Examiner KARUNA P. REDDY	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/22/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment filed 4/2/2009. Claims 1-11 and 13-17 are cancelled. Accordingly, claim 12 is currently pending in the application.
2. Upon reconsideration, the indicated allowability of claim 12 in the office action mailed 12/3/2008 is withdrawn. It was stated in paragraph 8 of office action mailed 5/29/2008, that Hirota et al (US 2005/0177015 A1) does not qualify as prior art under 35 U.S.C. § 102. However, WIPO publication (WO-2003/104166) of JP 2002/011785 to which Hirota et al (US 2005/0177015 A1) claims priority has a publication date of 12/18/2003 and qualifies as a prior art under 102(e). Thus, claim 12 is unpatentable over the rejection set forth in paragraph 4 below, based on a combination of Kawai et al, Koike and Hirota et al. The delay in setting forth this rejection, in paragraph 4 below, is regretted.

It is noted that the time period for response is being restarted.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

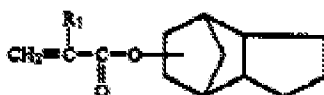
4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al (US Re 34,061 - is the same as EP 1 41610 A) in view of Koike (US 5, 767, 200) and WO 03/104166 (hereafter WO).

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It is noted that WO 03/104166 (WO) is being utilized for date purposes.

However, since WO is not in English, US equivalent for WO, namely, Hirota et al (US 2005/0177015 A1) is referred to in the body of the rejection below. All column and line citations are to the US equivalent.

Kawai et al discloses a compound (tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate) of the following formula (column 2, lines 63-68) wherein R₁ is a hydrogen or a methyl group.



A polymer excellent in transparency, moisture resistance, heat resistance and one which is suitable as a material for optical elements is obtained by polymerizing the above mentioned compound i.e. tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate (abstract).

Kawai et al is silent with respect to deuteration of tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate; and process of making deuterated tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate.

However, Koike et al teach that optical absorbance attributable to expansion and contraction of the C-H bond interferes with absorbance peak wavelength in some cases and coincides with the operating wavelength of an optical device. The 4th, 5th, 6th and 7th harmonics with an absorbance at 901 nm, 736 nm, 627 nm and 549 nm respectively fall within the wavelength region which is mainly used in the optical communication field. Where the C-H bond of molecules is replaced by C-D bond, the above-mentioned peaks disappear. The threshold transmission loss values are drastically improved compared with the case of C-H bond (column 11, lines 14-61). Therefore, it would have been

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obvious to one skilled in the art at the time invention was made to replace the hydrogen atoms of C-H bond, in tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate of Kawai et al, with deuterium i.e. heavy hydrogen for forming optical members with desirable transparency or transmittancy in the operating wavelength of an optical device.

With respect to the process of deuterating, Hirota et al teach a method for deuteration of inert alkane using activated palladium carbon (paragraph 0001). In the method for deuteration, non-activated palladium carbon can be used if hydrogen gas is present in a deuteration reaction system (paragraph 0028). The specific example of a deuterated solvent to be used in the method for deuteration involves deuterium oxide (paragraph 0031). Therefore, it would have been obvious to deuterate carbon atoms of tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate, by deuterating in the presence of H₂ gas using palladium carbon as a catalyst and D₂O as a source of deuterium because Hirota et al teach that difficult to deuterate hydrogen atoms on inert alkanes can be deuterated by the process taught in Hirota et al and one of ordinary skill in the art would expect such a process for the deuteration off tricyclo[5.2.1.0^{2,6}]deca-8-yl (meth)acrylate.

It is noted that the foreign priority filing date must antedate the reference and be perfected. The filing date of the priority document is not perfected unless applicant has filed a certified priority document in the application (and an English language translation, if the document is not in English) (see 37 CFR 1.55(a)(3)) and the examiner has established that the priority document satisfies the enablement and description requirements of 35 U.S.C. 112, first paragraph. In the present case, applicant has not provided an English language translation of the foreign priority application.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. P. R./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796